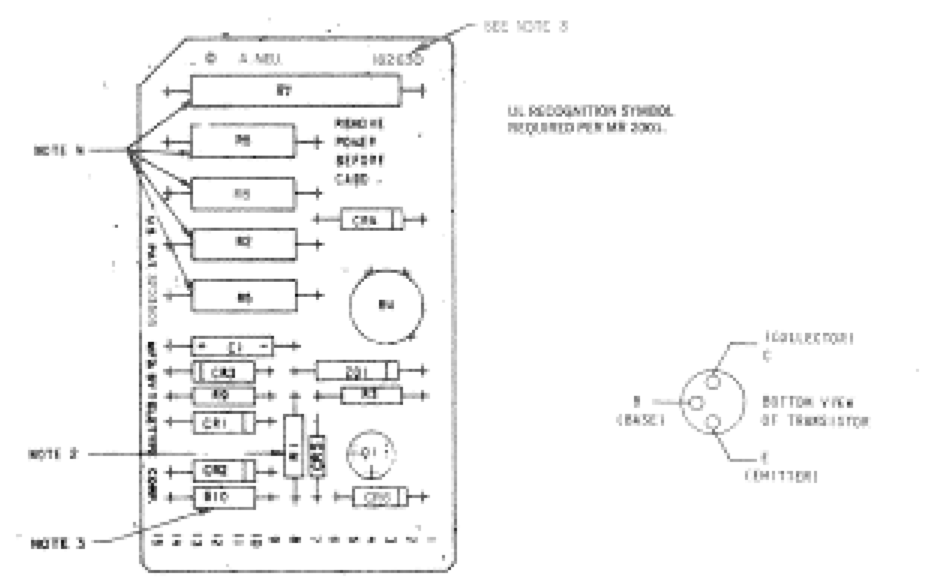
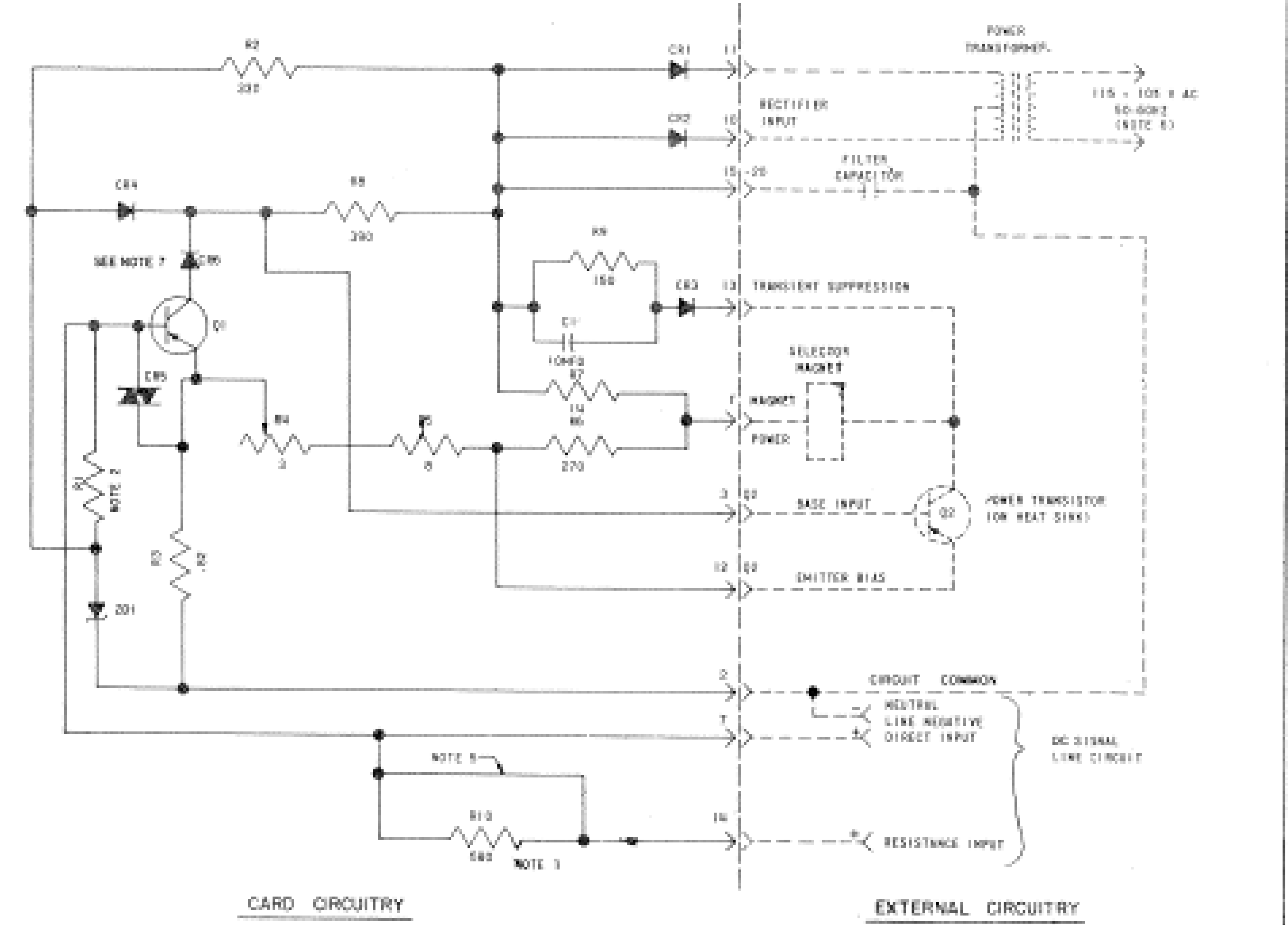
NO.	NOTES
1.	REFER TO 5906HD FOR CARD MARKING INFORMATION.
2.	THE SELECTION OF THIS RESISTOR DEPENDS ON THE APPLICATION IN WHICH THE DRIVER IS TO BE USED.
3.	R10 IS USED ON 182630 ASSEMBLY ONLY.
4.	RAISE R2,5,6,7,8 1/32 TO 1/16 ABOVE CIRCUIT CARD.
5.	THE 396039M STRAP IS USED ON THE 182631 AND 182632 ASSEMBLIES
6.	SEE 5983HD FOR APPROPRIATE POWER INPUT.
7	DIODE CR6 WAS ADDED TO PROTECT Q1 FROM DESTRUCTION BY ACCIDENTAL GROUNDING OF THE COLLECTOR OF Q2. 181653 DIODE WAS USED FIRST BUT CHANGED TO 199442 TO REDUCE "LEAKAGE" CURRENT DURING SPACING PULSES.
8	.020 A NEU 182630 .060 A NEU 182631 .040 A NEU 182632


SEE NOTE 8
A NEU
182630
R1
R6
R5
R2
R8
R4
C1
CR3
R9
CR1
ZD1
R3
CR4
Q1
CR5
CR2
R10
CR6
NOTE 4
NOTE 2
NOTE 3
REMOVE POWER BEFORE CARD
UL RECOGNITION SYMBOL REQUIRED PER MR 2001.
(COLLECTOR) C
B (BASE)
BOTTOM VIEW OF TRANSISTOR
E (EMITTER)

CONSTANT CURRENT .500 SELECTOR MAGNET DRIVER


R2
330
CR1
11
CR2
10
RECTIFIER INPUT
POWER TRANSFORMER
115 ± 10% V AC 50-60HZ (NOTE 6)
15 -20
FILTER CAPACITOR
CR4
R8
390
R9
150
CR3
13
TRANSIENT SUPPRESSION
C1
10MFD
SEE NOTE 7
CR6
Q1
CR5
SELECTOR MAGNET
R7
14
MAGNET POWER
R4
3
R5
8
R6
270
3 Q2 BASE INPUT
Q2
POWER TRANSISTOR (ON HEAT SINK)
12 Q2 EMITTER BIAS
R1 NOTE 2
R3
ZD1
2 CIRCUIT COMMON
7
NEUTRAL LINE NEGATIVE DIRECT INPUT
DC SIGNAL LINE CIRCUIT
NOTE 5
R10
560
NOTE 3
14
RESISTANCE INPUT
CARD CIRCUITRY
EXTERNAL CIRCUITRY

CIRCUIT CARD ASSEMBLY

REF. DESIG.	TELETYPE PART NO.	TOTAL QTY	NAME & DESIGNATION	LOCATING FUNCTION	USED ON	FOR
R1	182779	SELECT ONE SEE NOTE 2	RESISTOR 820 OHMS 1/2W	.010 AMP. SWITCHING	182630	.020A NEUTRAL LINE
"	182797		RESISTOR 135 OHMS 1/2W	.030 AMP. SWITCHING	182631	.060A " "
"	182180		RESISTOR 200 OHMS 1/2W	.020 AMP. SWITCHING	182632	.040A " "
R10	182777	1	RESISTOR 680 OHMS 1/2W	INPUT CURRENT	182630	DATA SET OPERATION
				LIMITING		
R10	396039M	1	STRAP	.030 AMP. SWITCHING	182631	.060A NEUTRAL LINE
R10	396039M	1	STRAP	.020 AMP. SWITCHING	182632	.040A " "
R2	181669	1	RESISTOR 330 OHMS 2 1/2W	ZENER CURRENT		
				LIMITING		
R3	182778	1	RESISTOR 0.82 OHM 1/2W	COMMON EMITTER BIAS		
R4	182773	1	RHEOSTAT 3 OHMS 2 1/2W	OUTPUT CURRENT		
				ADJUST		
R5	181717	1	RESISTOR 8 OHMS 5W	Q2 EMITTER BIAS		
R6	182770	1	RESISTOR 270 OHMS 4W	Q2 EMITTER BIAS		
R7	182772	1	RESISTOR 14 OHMS 10W	Q2 COLLECTOR LOAD		
R8	182827	1	RESISTOR 390 OHMS 4 W	Q1 COLLECTOR LOAD		
R9	182776	1	RESISTOR 150 OHMS 1/2W	Q2 COLLECTOR LOAD		
				TRANSIENT LIMITING		
CR1	182520	2	DIODE 1N3193	POWER RECTIFIER		
CR2	182520		SAME AS CR1	POWER RECTIFIER		
CR3	181619	2	DIODE 1N482	COLLECTOR		
				TRANSIENT LIMITING		
CR4	181619		SAME AS CR3	VOLTAGE CLAMPING		
CR5	178044	1	VARISTOR 100A	INPUT PROTECTION		
CR6	199442	1	DIODE, 1N270	SEE NOTE 7		
ZD1	182774	1	DIODE, ZENER 4.7V 5% 1W	REFERENCE		
C1	182828	1	CAPACITOR, 10 MFD, 25WVDC	COLLECTOR		
				TRANSIENT LIMITING		
Q1	181671	1	TRANSISTOR, HIGH GAIN	INPUT SWITCH		
EC	182775	1	CIRCUIT BOARD, ETCHED			

CIRCUIT DESCRIPTION

THE SELECTOR MAGNET DRIVER CIRCUIT IS POWERED FROM A SOURCE OF 117 VOLT ALTERNATING CURRENT THROUGH A STEP DOWN ISOLATION TRANSFORMER. DIODES CR1 AND CR2 PROVIDE FULL WAVE RECTIFICATION OF THE REDUCED VOLTAGE TO -20 VOLTS DC AT TERMINAL 15. THE CIRCUIT COMMON IS CONNECTED TO TERMINAL 2 AND A POWER SUPPLY FILTER CAPACITOR IS CONNECTED BETWEEN TERMINALS 2 AND 15.

THE DIRECT CURRENT SIGNAL LINE CIRCUIT IS CONNECTED THROUGH TERMINALS 7 AND 2, WITH AN ALTERNATE CONNECTION THROUGH R10 AT TERMINAL 14 PROVIDING A CURRENT LIMITING FUNCTION.

IN THE MARKING CONDITION, Q1 IS OFF-BIASED. WITH Q1 OFF, THE BASE OF Q2 WILL BE CLAMPED AT THE ZENER REFERENCE VOLTAGE BY DIODE CR4. THIS VOLTAGE CLAMP IS THEN TRANSLATED TO CURRENT REGULATION BY THE TRANSISTOR ACTION OF Q2. THE REGULATED MAGNET CURRENT IS ADJUSTED TO .500 AMPERES BY RHEOSTAT R4.

WITH THE SIGNAL LINE IN THE OPEN OR SPACING CONDITION, Q1 IS TURNED ON BY BASE CURRENT SUPPLIED THROUGH RESISTOR R1. THE POTENTIAL AT THE COLLECTOR OF Q1 WILL BE NEAR ZERO, OFF-BIASING Q2. WITH Q2 OFF, NO SELECTOR MAGNET CURRENT FLOWS, ALLOWING THE MAGNET TO RELEASE. DURING THE TURN OFF OF Q2 THE INDUCTIVE TRANSIENT DEVELOPED AT THE COLLECTOR IS SUPPRESSED BY THE NETWORK CONSISTING OF CR3, R9, AND C1.

"SNAP-ACTION" IS SUPPLIED TO THE CIRCUIT TRANSITIONS BY FEEDBACK IN THE EMITTER CIRCUITS OF TRANSISTORS Q1 AND Q2.

182630-35

REVISIONS

ISSUE	DATE	AUTH. NO.
2	8-8-62	30-1258
3	11-27-62	30-5088
4	12-17-62	30-5495
5	1-23-63	30-5880
6	3-23-64	81280
7	5-21-64	81361
8	4-26-65	85937
9	6-10-65	85502-2
10	9-19-66	88816
11	10-25-66	88816-1
12	12-14-66	92090
13	2-7-67	93301
14	5-3-67	93302
15	6-20-68	15358-R
16	7-9-69	95048
17	12-20-68	98266
17A	5-3-71	2320

APPROVALS

D AND R	E OF M
HJK	

E- NUMBER

PROD. NO. 182630-35

DATE 8-2-62

R.D. FILE NO. 33-159848

DRAWN E.R. REG	CHKD.
ENGD. R.J.M.	APPD.

TELETYPE
CORPORATION

182630-35